Surgeons and HIV

Surgeons' voices have been little heard in the discussions and controversies over infection with the human immunodeficiency virus (HIV). Yet there is bound to be a growing number of patients infected with HIV who will come into contact with surgeons in three categories: those who have AIDS and surgical complications or who need invasive treatments; those who present with specific surgical problems related to their lifestyle—in our practice anorectal disease; and, finally, patients who have injuries or problems unrelated to viral infection that require surgical management. Surgeons for their part are the people who come in contact with blood in the least controllable of circumstances. Are surgeons then at high occupational risk, and if so what should be done about it? Furthermore, are there any lessons for surgery in general which can be distilled from the need to consider the effects of dangerous infections on surgical practice? An international meeting on AIDS and surgery coordinated from St Mary's Hospital Medical School was held at the end of last year to discuss some of these questions.

Surgeons injure themselves as well as their patients. Glove puncture occurs in up to 30% of operations (M Fell, paper presented at the Royal College of Surgeons, November 1987), and self injury from needles or knives in 15-20%. Yet recorded cases of seroconversion in surgeons—as in other health care personnel—are virtually non-existent[1]: one female surgeon in central Africa has died of AIDS.[2] Nevertheless as exposure increases then any risk to an individual surgeon must rise even if it is still low in absolute terms. We cannot yet determine objectively at what degree of risk special precautions should be taken and what the measures should be. Until we can we should keep the risk down. But how?

The objections to routine screening for antibodies to HIV have been well rehearsed, and, irrespective of legal and moral aspects, the procedure has loopholes because of the time lapse between infection and seroconversion. We think that we can identify in our patients a (predominantly homosexual) subgroup who are "high risk"; again this approach will leave some patients undetected, particularly if heterosexual spread becomes more common. We do make special efforts when operating to reduce the risk of inoculation in such patients, adopting similar precautions to those recommended for patients with hepatitis B surface antigen. But as the number of known and unknown patients with HIV viraemia grows a more universal approach may be necessary and has already been adopted in San Francisco, where surgeons at the general hospital assume that all patients carry the virus. The elaborate precautions this assumption demands—such as double gloves, goggles or visors, and impervious disposable clothing—are costly, irksome, and without proved efficacy. As with other problems raised by this new infection, they are adopted because of surgeons' perceptions of the problem rather than its reality. None of us wishes to be the first proved case of AIDS that originated from inoculation in the operating theatre, and if we can perceive methods of reducing risk it is hard to deny us their use. Precautions, irrespective of their real value, serve to heighten awareness.

Beyond these apparently selfish considerations lies the need to improve safety for surgeons. The concept that we must accept risk as part of the medical tradition of putting the patient first is tenable only if that risk is unavoidable. An opportunity for a radical rethink of our techniques was missed when the hazards of hepatitis were first recognised, and, though careful technique keeps the incidence low, surgeons still get hepatitis. The appearance of HIV gives a further opportunity to consider change.

We need to re-examine the basic techniques we use. Gloves, introduced at the turn of the century by Halsted, were designed to protect the surgical team as much as the patient, but they are vulnerable in particular areas such as the forefingers.[1] Manufacturers need to heed these observations and provide selective reinforcement. Knives and needles, the chief causes of self-injury, are primitive weapons, virtually unchanged throughout the recorded history of surgery. Other devices are now becoming available: the laser scalpel works but is slow; ultrasonic dissection by local and selective destruction of tissue is an established technique in liver surgery; and stapling devices, though still lacking sophistication and adaptability, are accepted tools in gastrointestinal surgery. The next generation of these devices will probably have some "intelligence" built in, making them more responsive and flexible. Glues for tissues have been widely investigated for many years; they are not yet at the stage of widespread application but will surely improve. In addition, given the growth of advanced robotics, there might be a return to "no touch" or "stand off" surgery, in which the surgeon is distanced from direct contact with tissue by a device or an instrument. Originally this was seen as a way of protecting the patient but now it may also ensure greater safety for the surgeon.

Threats, albeit small in reality, generate intense thinking about their mitigation. The surgical aspects of HIV infection should concentrate surgical minds wonderfully and encourage them to innovate.

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1 McEvoy M, Porter K, Mortimer P, Simmonds N, Shanson D. Prospective study of clinical, laboratory and ancillary staff with accidental exposures to blood or body fluids from patients infected with HIV. *Br Med J* 1987;**294**:1595-7.
2 Bygbjerg IC. AIDS in a Danish surgeon. (Zaire, 1976.) *Lancet* 1983;i:925.

Vitamins and neural tube defects

Recent years have seen much controversy over vitamin supplementation during pregnancy to reduce the incidence of neural tube defects. Firstly, we had the arguments over whether it was ethical to conduct a randomised trial of supplementation after Smithells and others had shown that the incidence of neural tube defects was strikingly reduced in their study.[1] Secondly, great concern was expressed when Pregnavite Forte F was removed from the approved list because it was widely used in clinical practice and was the only multivitamin preparation for which many of the data on efficacy exist. Eventually the Committee on Safety of Medicines granted a limited licence for Pregnavite Forte F to be used as a supplement for women who have previously given birth to one or more babies (or aborted a fetus) with a